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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* NICOLAI PAPKE

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Appeal 2009-004447  
Application 10/506,553  
Technology Center 1700

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Decided: October 13, 2009

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Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and PETER F.  
KRATZ, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 2, 7, 9-11 and  
15-27. Claim 1 is illustrative:

1. A polyacetal molding composition comprising
  - a) from 20 to 99% by weight of a polyacetal homo-  
or copolymer,

- b) from 0.1 to 80% by weight of an additive, and
- c) from 0.00001 to 0.005% by weight of a catalyst

which catalyzes a chemical reaction between the polyacetal matrix polymer and the surface of the additive, where the catalyst does not comprise the element boron and is not a Brönsted acid and wherein the catalyst is selected from the group consisting of ethyltriphenylphosphonium bromide, tetraphenylphosphonium bromide, tetrabutylphosphonium bromide, stearyltributylphosphonium bromide, triphenylphosphane, n-butyl titanate, and their mixtures.

The Examiner relies upon the following references as evidence of obviousness:

Natarajan	US 4,480,071	Oct. 30, 1984
Lindner	US 4,683,267	Jul. 28, 1987
Bederke	US 5,426,156	Jun. 20, 1995
Yabuta	US 5,889,115	Mar. 30, 1999
Sharma	US 6,090,319	Jul. 18, 2000
Miyawaki	JP 06-240105A	Aug. 30, 1994

Appellant's claimed invention is directed to a molding composition comprising a polyacetal homo-or copolymer, an additive, such as reinforcing fiber, and a catalyst that may be, *inter alia*, n-butyl titanate.

Appealed claims 1, 2, 7-9, 11, 15-17 and 18-27 stand rejected on the ground of non-statutory obviousness-type double patenting over claims 1, 4, 9, 10-12, and 16-24 of U.S. Patent No. 7,169,887 in view of Laughner. Also the appealed claims stand rejected under 35 U.S.C. § 103(a) as follows:

- (a) claims 1 and 27 over Miyawaki in view of Lindner,
- (b) claims 1 and 27 over Miyawaki in view of Lindner and Yabuta,

- (c) claims 1 and 27 over Miyawaki in view of Lindner and Bederke,
- (d) claims 1, 2, 7, 11 and 18-20 over Natarajan in view of Lindner,
- (e) claims 1, 2, 7, 11, 15, 16, and 21-23 over Natarajan in view of Lindner and Yabuta,
- (f) claims 1, 2, 7, 11, 15, 17, 24-26 over Natarajan in view of Bederke,
- (g) claims 9 and 10 over Natarajan in view of Lindner, Bederke, or Yabuta further in view of Sharma.

We have thoroughly reviewed each of Appellant's arguments for patentability. However, we are in complete agreement with the Examiner's reasoned analysis and application of the prior art, as well as her cogent disposition of the arguments raised by Appellant. Accordingly, we will sustain the Examiner's rejections for the reasons set forth in the Answer, and we add the following for emphasis only.

Appellant does not separately argue all the rejections lodged by the Examiner but, instead, addresses the rejections based on Miyawaki as a primary reference as a group, and does likewise with the rejections based on Natarajan as a primary reference.

We consider first the § 103 rejections based on Miyawaki as a primary reference. Appellant does not dispute the Examiner's factual determination that Miyawaki, like Appellant, discloses a molding composition comprising the presently claimed polyacetal polymer, an additive and a catalyst, such as triethylamine. As recognized by the Examiner, Miyawaki does not disclose one of the specifically claimed catalysts. However, the Examiner cites

Lindner for teaching the equivalency of triethylamine and one of the claimed catalysts, butyl titanate, as an esterification catalyst. Accordingly, the Examiner concludes that it would have been obvious for one of ordinary skill in the art to substitute butyl titanate for the triethylamine catalyst of Miyawaki. Significantly, Appellant has offered no argument in rebuttal with respect to the obviousness of such a substitution.

Rather, Appellant contends that Miyawaki teaches a minimum amount of 0.01 weigh percent of catalyst which is double the maximum amount of 0.005 weight percent. Appellant emphasizes Miyawaki's teaching that the reaction cannot fully progress and be effective if insufficient amount of catalyst is used. Appellant maintains that Miyawaki teaches away from using the amount of catalyst disclosed by Lindner that falls within the claimed range.

We are not persuaded by Appellant's argument. The Examiner presents the following convincing rationale that has not been refuted by Appellant:

Given the teachings of Lindner, that one desires to use as low as an amount of catalyst [as] possible to prevent coloring, the Examiner finds that one of ordinary skill would be motivated to decrease the amount of catalyst. Further, one of ordinary skill would recognize that different catalysts require different amounts to be effective and as such when one used the catalyst of Lindner one would not necessarily use the range taught by Miyawaki.... Further, Lindner teaches that it is beneficial to have a pure starting material, without acid or base impurities, because by doing such one can use less catalyst. One looking to decrease the color of the final product, or, one looking to spend less money on expensive catalyst, would thusly look to the teachings of Lindner to motivate them to use less catalyst in the composition. (Ans. 11-12, para. bridging)

We agree with the Examiner that one of ordinary skill in the art would have found it obvious, when selecting butyl titanate for the composition of Miyawaki, to use as little as possible to reduce coloring and cost. The skilled artisan would have needed to resort to no more than routine experimentation to determine the optimum level of catalyst for use in the molding composition. *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980). Furthermore, it is well settled that where patentability is predicated upon a change in a condition of a prior art composition, such as a change in concentration or the like, the burden is on the Applicant to establish with objective evidence that the change is critical, i.e., it leads to a new, unexpected result. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). In the present case, Appellant has proffered no such objective evidence of criticality for the claimed amount of catalyst. Moreover, to the extent that Miyawaki teaches that more than the claimed amount of catalyst is needed, Appellant has not established that using a less amount of catalyst produces comparable results. Manifestly, proceeding against the teaching of the prior art and not obtaining the advantages taught in the art is a matter of obviousness for the skilled artisan. *See in re Thompson*, 545 F.2d 1290, 1294 (CCPA 1976); *In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975).

Turning to the §103 rejections based on Natarajan as a primary reference, Appellant notes that the reference discloses 81 different catalysts but not the claimed n-butyl titanate. However, Appellant has not presented a substantive argument against the thrust of the Examiner's rejection, mainly, the obviousness of substituting the butyl titanate of Lindner for the triethylamine catalyst of Natarajan. Appellant offers only the conclusory

remarks that “Applicant respectively disagrees with this combination” and that “[t]he Applicant does not believe that the prior art references are combinable” (App. Br. 12, first para.) Consequently, the rationale of the Examiner’s rejection stands unrebutted.

Concerning the double patenting rejection, Appellant points out two differences between the claimed subject matter and that claimed in U.S. Patent No. 7,169,887. Again, however, Appellant does not address the thrust of the Examiner’s rejection which is based on the Laughner disclosure for the obviousness of the claimed differences over the claims of the ‘887 patent. Appellant simply states that “[t]he Applicant does not believe that Laughner is combinable with the ‘887 patent” without presenting the requisite analysis why such is the case (App. Br. 14, last para.).

Appellant’s separate arguments for different groups of claims which recite different amounts of catalyst are not availing for the reasons set forth above.

As a final point, we note that Appellant bases no argument on upon objection evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner’s decision rejecting the appealed claims is affirmed.

Appeal 2009-004447  
Application 10/506,553

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

kmm

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